

IN THE CLAIMS

Please amend the claims as follows:

- 1 1. (currently amended) A disk drive employing a velocity controlled servo loop, the disk
2 drive comprising:
3 (a) a disk;
4 (b) a head;
5 (c) an actuator arm for actuating the head radially over the disk;
6 (d) a voice coil motor (VCM) for rotating the actuator arm about a pivot, the VCM
7 comprising a coil comprising a VCM resistance R;
8 (e) a back EMF voltage detector for measuring a back EMF voltage across the coil;
9 (f) a current detector for detecting a current I flowing through the coil;
10 (g) an IR voltage detector, responsive to the current I detected by the current detector, for
11 detecting an IR voltage proportional to the current I times the VCM resistance R;
12 (h) a voltage compensator for substantially canceling the IR voltage from the measured
13 back EMF voltage to generate a compensated back EMF voltage;
14 (i) a control voltage generator, responsive the compensated back EMF voltage, for
15 generating a control voltage applied to the coil to generate the current I flowing
16 through the coil; and
17 (j) a stall detector for comparing the current I detected by the current detector to a
18 threshold, wherein a VCM stall condition is detected if the current I exceeds the
19 threshold for a predetermined interval.
- 1 2. (original) The disk drive as recited in claim 1, wherein the current detector comprises a
2 sense resistor in series with the coil.
- 1 3. (original) The disk drive as recited in claim 1, wherein the stall detector comprises:

(a) a clock; and

(b) a counter for counting a number of clock cycles the current I exceeds the threshold.

4. ~~(currently amended) A method of controlling velocity of an actuator arm implementing a~~

velocity controlled servo loop in a disk drive , the disk drive comprising a disk, a head,

the actuator arm, and a voice coil motor (VCM) for rotating the actuator arm about a

pivot, the VCM comprising a coil comprising a VCM resistance R, the method

comprising the steps of:

(a) generating a control voltage from a command input and a compensated back EMF

voltage;

(b) applying the control voltage to the coil to generate a current I flowing through the coil

to move the actuator arm;

(c) detecting a back EMF voltage across the coil;

(d) detecting the current I flowing through the coil;

(e) detecting an IR voltage proportional to the current I times the VCM resistance R;

(f) subtracting the IR voltage from the detected back EMF voltage to generate the

compensated back EMF voltage;

(g) comparing the current I to a threshold; and

(h) detecting a VCM stall condition if the current I exceeds the threshold for a

predetermined interval.

5. (original) The method of controlling velocity of an actuator arm as recited in claim 4,

wherein the step of detecting the current I comprises the step of detecting a current

flowing through a sense resistor in series with the coil.

- 1 6. (original) The method of controlling velocity of an actuator arm as recited in claim 4,
2 wherein the step of detecting a VCM stall condition comprises the step of counting clock
3 cycles while the current I exceeds the threshold.
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